Fourth Year Project

Research development / Dev Log

# Research

## Interactions:

The input system that will be implemented in this project will be Unity’s OpenXR, this utilises the newest input system in Unity which allows interaction between the program and special controllers such as the HTC Vive controllers, Valve Index controllers and more.

With Unity OpenXR you get a prefab called ‘XR Rig’ sets up the camera to track your headset movements and gives you settings for your left and right hand that you can adjust to have set up with your specific project.  
  
Inside each ‘HandController’ there are a few scripts needed to get them working with the scene. Once is an ‘XR Controller (Action Based)’ script, this is how you map the actual action-based input within unity to the controller, it forwards all your interactions to the correct commands that need to be followed out for each button press, trigger pull, etc. The next script is the XR Ray Interactor, this allows you to point and click on UI elements, while also allowing you to point and click on objects at any distance. There are a few other things not worth mentioning but that’s generally how it works.

Inside

# Dev Log (Not day by day)

## Log 1:

My first task was to get a project set up with the Virtual Reality Headset (Hereinafter referred to as VRH or VR). I needed to install SteamVR to allow the VRH to interact with applications being run on the computer. The software I am using for development is Unity and it has a variety of built in tools that assist greatly in the setup of VR in a project, I needed to learn what tools I needed and I did that through the [Unity Docs](https://docs.unity3d.com/Manual/VROverview.html), which gives you further information on [OpenXR](https://docs.unity3d.com/Packages/com.unity.xr.openxr@1.2/manual/index.html) and the [XR Interaction Toolkit](https://docs.unity3d.com/Packages/com.unity.xr.interaction.toolkit@1.0/manual/index.html).   
Before getting the VRH working with Unity, I got a classmate to help test the headset through SteamVR before getting everything set up with Unity and everything was in working order.  
Not too long after I had the VR connected and working with Unity.